THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. XCIV. — THURSDAY, APRIL 13, 1876. — NO. 15.

THE BELFRY MURDER CASE.[1]

BY B. E. COTTING, M. D.

About five o'clock in the afternoon of May 23d, last, I was called to Mabel H. Young, a little girl five years and two months old. She had just been found in a church-tower, and had received great injuries. These injuries were then supposed to be the results of a fall.

The child had been taken home; her clothing had been removed, and she was put into bed. Her face and head were severely bruised, but no injury whatever could be found on any other part of her person. She was lying on her back, uttering every few moments distressing screeches, such as are sometimes heard in affections of the brain with effusion. During these paroxysms there were convulsive movements in the fingers, and, in less degree, in the toes also. At other times the fingers were contracted firmly upon the palms. She was unconscious, and apparently insensible to outward impressions. Her pulse was about 125 or 130, by estimation; the breathing was not unnatural; and the skin was moist and otherwise normal.

On further examination, there was found a swelling of the upper lip, with a very small and indistinct ecchymosis towards its right side. The soft parts of the nose were crushed down to a level with the cheeks, the right of which was somewhat swollen; and a clot projected slightly from each nostril. The skin over the nasal bones was bruised, not broken; but there was a deep ecchymosed depression at their juncture with the cartilages. These seemed almost completely separated from their natural attachments, but here also the skin was unbroken. The eyes were open, apparently without vision; there was not any squinting or fixedness of the eyeballs; the pupils were rather large, but responsive to light; each eye was somewhat bloodshot at the lower and inner angle near the nose.

The top of the head was greatly swollen; beginning on the forehead about a finger's breadth above the eyebrows, and extending over the whole vertex and down the right side to a level with the ear. The scalp was puffy, and seemed almost fluctuating. The skull could be readily felt to be fractured in various directions, with crepitus marked and abundant.

[1] Reported to the Roxbury Society for Medical Improvement, February 17, 1876.

With the assent of the family, and the approval and assistance of Dr. Read, who had accompanied the child to her home, I removed the hair from the scalp, to ascertain by further exploration whether any surgical operation would be required. The top of the head was pretty uniformly swollen and rounded, but on the vertex, a little to the left of the median line and nearly over the coronal suture, there was a faint irregular ecchymosis about half an inch in diameter, under which the scalp was much softer than in any other part. Indeed, there was here found a furrow about an inch in width and two or more in length, into which the extended finger could be pressed nearly or quite its whole thickness. The furrow had a general direction obliquely from before backwards, being bounded on its posterior border and extremity (at *f f'* and *c*) [1] by a hardened edge, giving (as is not uncommon in similar cases) the sensation of bony depression at that point. Under this furrow the bone seemed to be comminuted. From the angle at *c*, and in the direction *c e*, a fracture ran down the left side of the head. About an inch behind the soft space, and nearly parallel with it, was another fracture (*d g k h i j*), which, crossing the vertex, extended indefinitely to the right side towards the base of the skull. There were two fractures running nearly at right angles with the last mentioned on the top of the head; and above the level of and a little behind the right ear was still another, the posterior angular portion of which was tilted outward so as to be quite perceptible to the touch. No depression could be found of any portion of the fractured parts, and it was very evident that surgical interference was neither required nor justifiable. Such extensive injuries were considered necessarily fatal, and the case was pronounced hopeless.

Dr. Read informed me that he had visited the place where the injuries were received, and that the idea that they were produced by a fall was utterly untenable, for the child was found in the *belfry*, the highest accessible place in the steeple of the church. On this statement, and as there appeared evidence of several blows which seemed to be the result of intentional violence, I asked for another witness, in view of the probability of legal investigations, and Dr. Cheever was called. With him, I went again over the whole case, and made a thorough examination of the child's person and clothing. On the straw hat which the child had worn there was a depressed mark about an inch wide and from two to three inches in length, the posterior edge of which was clearly defined, straight, and more deeply indented into the substance of the straw than elsewhere. This inch-wide mark was duller or less shiny than the parts surrounding it, and there seemed to be particles of dust imbedded into the surface. With the hat in position as usually worn, this mark corresponded exactly with the furrow in the scalp before mentioned.

My consultants having withdrawn, I remained an hour or two longer

[1] See diagram on page 412.

to administer to the child and to study the case. The result of my investigations as communicated to the officers of justice that night, while the case was still supposed by the family to be one of accident, and before I was aware of any suspicion outside to the contrary, was that in my opinion several blows had been intentionally inflicted; that the instrument was a strip of hard board, or billet of heavy wood, having a striking surface of about an inch in width, with edges slightly smoothed off, and a surface somewhat dusty; that the blows were short, quick, of great initial force, but resilient or limited, as when one would break a nut's shell in order to preserve the kernel, and not as when one would drive home a wedge or a nail. Blows of the latter character, with sustained and prolonged force, would have driven in the broken fragments of bone and crushed the underlying soft parts much more than in the present instance. These views, then freely expressed, are now thus minutely detailed in view of subsequent developments.

The treatment could be only palliative. Cloths wet in cold water were applied to the head. A teaspoonful of a solution of bromide of potassium, eight grains to the ounce, was directed to be given every hour while the screaming continued. About seven grains were thus given, when on the subsidence of the paroxysms the drug was discontinued. In anticipation of the retching which frequently ensues on concussion, and the probability of blood having run from the posterior nares into the stomach, an infusion of senna was prepared, and about a fluid ounce was taken towards the following morning. A partially successful attempt was made to raise into place the depressed cartilages of the nose.

About daylight of the following morning (the 24th), the child's cry became more natural; for a few moments she seemed to hear, but could not be made to understand anything, or to notice objects presented to her. Towards noon she had two dejections, apparently the effect of the senna. At noon, she seemed to be failing. The pulse became very rapid and feeble. The tumefaction of the scalp subsided perceptibly, and the whole head soon took on a comparatively shrunken appearance. She sank away gradually through the afternoon, and died, without struggle, at ten minutes before eight P. M., twenty-eight hours after the infliction of the injuries.

Autopsy, twenty hours after death, by Dr. W. P. Bolles, pathologist of the Boston City Hospital. The following are his notes: "No signs of injury except to head. Feet inverted. Fingers contracted, semiflexed. Ecchymosis on lip, across bridge of nose, and also in conjunctiva at the angle of each eye. On the vertex, about an inch and a half to the left of the median line and directly above the tip of the left ear, there was a depression in the scalp, on top of which was a superficial abrasion. There was a sharp projection of the parietal bone, one inch

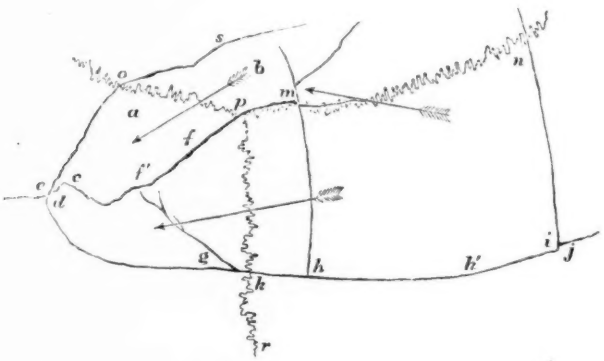
and three quarters above, and one inch and one quarter behind, the tip of the right ear. On dividing the scalp, there appeared an extravasation into the cellular tissue over the entire vertex from just above the eyebrows to the occiput, and on both sides nearly to the ears. On the right side there was also an effusion beneath the temporal fascia. There was a comminuted fracture of the skull, having its central point somewhat upon the left side of the vertex, occupying an irregular quadrilateral from two to three inches in length, from whose posterior corners a long fracture upon either side extended downwards towards the base of the skull. On the right side a horizontal fracture towards the temporal portion joined the last named.

"At the base of the brain was a slight increase of meningeal fluid. On the right side, under the projection above spoken of, there was a rent one inch long in the dura mater, with a laceration of and an ecchymosis in the brain tissue. Upon the left hemisphere, between the termination of the fissure of Sylvius and the longitudinal fissure, there was an effusion beneath the pia mater; and beneath this the brain tissue was both lacerated and ecchymosed. The substance of the brain was pale, but no further lesions were discovered.

"There was an extravasation of blood beneath the skin of the bridge of the nose. The nasal bones were not fractured, but the cartilages were somewhat loosened, depressed, and partially detached.

"Excepting a slight congestion of the posterior portion of the right lung, all the other organs and parts of the body, but those above mentioned, were healthy."

The accompanying diagram, reduced to one half from a full-size photograph by Black, and from actual measurements of the skull itself, will give a better idea of the number, position, and extent of the fractures than can be conveyed by words alone.



The coronal suture is indicated along *o p n*, the sagittal from *p* to *r*. From *e* to *h*, the portion represented comes into vision on looking at the

top of the skull, which must be turned a little to show that from *h'* to *j*. The distance from *k* to *s* is two and one half inches; from *f* to *o* one inch and one eighth; *h* to *i* three inches; *i* to *n* and beyond rather more than three inches; the long fractures from the left base upward by *e* to *d* four inches, and from *d* by *g k h h' i j* to right base nine inches, or thirteen inches together. The arrows indicate the supposed direction of the blows, the arrowheads marking the probable points of greatest violence.

The skull, as now preserved, shows an imperfectly parallelogramic fracture at *s o c f p b*. This was directly under, and corresponded in general dimensions with the softened furrow in the scalp, as well as with the mark upon the straw hat. In that portion of this fracture (*a*) posterior to the coronal suture both tables were completely broken through, while they were not so thoroughly separated at the anterior and right extremity (*b*). This fracture is generally shelving off through the inner table, taking a larger portion of it than of the outer, except perhaps immediately under the sharp indentation in the hat and along the edge in the scalp (*f f' d*) hardened as before mentioned. Here the fracture is more direct and clean-cut. There can be no mistaking these combined appearances at this place as the result of a single blow.

As to the question whether the other fractures were the result of the same or of other and subsequent blows, there can be little room for any great difference of opinion. Still, as the point has been raised, it may be well to give the reasons for believing that there were other blows, or one at least, subsequent to that already described.

In the first place, then, all the remaining fractures are clean-cut, broken squarely off through both tables. This was rendered possible by the opened space caused by the first blow, which had to drive in the tables one upon the other, and to rend away the inner table rather than to break it off. In the second place, while the long fracture on the left side of the head may be and probably is a continuation of the first (that is, along *c e*), the other long fracture (*d g h k i j*) across the vertex to the right temporal region, is not a continuation of the first nor of that of the left side, but connects with these two (at *d*) from a different direction and in a curved line; so that it appears to me that this long fracture across the vertex must have been from a second blow posterior to and in a slightly different direction from the first. This view is strengthened by the existence of a fracture starting from this portion (at *g*), and another (at *h*) at nearly right angles with *g h*, which two do not seem to belong in any possible way to the results of the first blow. Thirdly, the stellated and indented appearance of the various fractures about the point *m* (noticeable particularly in the skull itself and in the photograph, but not easily shown in a wood-cut), the continuation of the posterior right lateral fissure (*h i*), the horizontal fracture above the

ear, and the tilting outward of the fractured bone at the point of juncture of the last two (at *i*), all seem to demonstrate, quite irresistibly, another and a third blow at or near this place (*m*) as necessary to produce such a condition of the parts.

It appears, then, that there were at least two, if not three, blows on and about the top of the head. That there were more than these is not impossible, by any means. The bruised state and great swelling of the whole top of the head, and along its right side, most marked immediately after the injuries, tend to corroborate this view.

The blow upon the nose is admitted by all to have been still another and a separate affair.

In view of these indications, and of the fact that there was discovered, in the room under the belfry where the child was found, a bat of dimensions and weight capable of being an instrument to cause such injuries,[1] and also a little pool of blood of hand's-breadth size, having a homogeneous clot such as would result from half an ounce to an ounce of fresh blood — in view of all these indications the following seems to me a plausible theory of what took place in that church-steeple on that Sunday afternoon : —

That after her arrival by the closed stairway into the empty room under the belfry, the little victim was seized by the right upper-arm near the elbow, and the first and severest blow inflicted on top of hat and head with the edge of the bat, a blow which marked the hat, crushed the scalp in the furrow, and broke the skull under it ; that the end of the bat reached only to the end of the fracture (at *c*), and did not extend beyond the contour of the head ; that this blow was not directly vertical ; that on the receipt of this blow the child fell, or, limp and flaccid, was still held up by her arm ; and that in such position the other blows were given, as they clearly could have had as their pivot a man's shoulder, while the shifting directions of the rolling head of a stunned child might change each time the line of impingement, as indicated in the figure by the arrows. The length also of the instrument as ordinarily grasped (say at mid-handle) accords with such supposition. It will also be noticed that the swellings and fractures all indicate that the blows came from the right side. The last blow, while the child was near the floor, missing the head, hit the nose, and was immediately followed by nose-bleed. If, now, the child was left on the floor while the murderer ran up the ladder to open the trap-door to the belfry, as is quite a natural supposition, there would be time enough for the blood found upon the floor to have flowed from the nose, the bleeding in such injuries being usually instantaneous and very soon over.

[1] The bat is of ash, of the shape shown in the figure. Its length is two feet and six inches ; its width three inches, tapering midway to its handle ; its thickness one inch and a sixteenth ; its weight one pound and seven ounces.

Taken thence to the belfry as hurriedly as possible, stunned and senseless, the child was left for dead, high above any probable search or chance of discovery. Her involuntary screams, less than a quarter of an hour later, made known her concealment to the neighborhood, already in alarm on account of her disappearance.

The arrest and conviction of the sexton are matters of general notoriety.

A CASE OF TRAUMATIC SEPARATION OF THE SYMPHYSIS PUBIS, WITH FRACTURE OF THE FEMUR.

BY GEORGE W. GAY, M. D.,

Surgeon to the Boston City Hospital.

On Saturday night, September 18, 1875, George H. B., a healthy marketman, aged twenty-four, while trying to climb into the second-story window of his father's house, fell from the water-spout to the sidewalk. He was intoxicated at the time of the accident, and had not fully recovered from the effects of the liquor when brought to the hospital the next morning.

The following injuries were found on examination: The right thigh was broken at the middle of the shaft. The symptoms were crepitus, shortening, eversion, and a distinct hinge at the point of injury. The patient had complete retention of urine, with hæmorrhage from the urethra. Bloody urine was drawn with the catheter.

Swelling and tenderness were present in the right groin, extending from the symphysis pubis half-way to the anterior superior spine of the ilium. The point of greatest tenderness was at or near the symphysis. The right side of the pelvis was movable, but there was no crepitus. When the right ilium was pressed backward, the pubic bones could be easily separated to the extent of half an inch. This motion was distinct and unmistakable, and was recognized by several medical gentlemen during the patient's first week in the hospital. A well-marked depression or groove could be felt at the junction of the pubic bones, both externally and with the finger in the rectum. The patient could slowly abduct his left leg, but he could not adduct it, nor raise it from the bed. Attempts to do so always produced pain at the symphysis. The rami of the pubes and ischium were not broken, nor were any other fractures to be detected about the pelvis. There was no extravasation of urine. The diagnosis of the pelvic injury was a separation of the pubic symphysis, with a loosening of the right sacro-iliac articulation. The fracture of the femur was treated in the usual way, with coaptation splints and extension. The urine was drawn every six hours the first day or two, when the patient passed it voluntarily, and had no further trouble of that kind.

In a little less than three weeks, a broad firm pelvic bandage was applied to keep the pubic bones in as close apposition as possible. The bandage was not applied earlier as the pressure on the great trochanter disturbed the position of the fragments of the femur.

The extension was removed from the thigh after twenty-five days. There was barely half an inch shortening. The union was quite firm.

The patient was discharged from the hospital at the end of seventy-four days. He could walk without the aid of crutches or his pelvic bandage. The union of the pubic bones was so firm that no motion could be detected, and he felt neither pain nor weakness in attempting to walk. He was advised to keep quiet a month, and wear his bandage several months longer, to insure a perfectly strong and lasting union at the symphysis.

Cases of traumatic separation of the symphysis pubis are uncommon. Sir Astley Cooper reports one case which recovered. A man, while stooping, was struck on the back by a large quantity of gravel, which knocked him down. On attempting to walk, he had violent pain in the region of the bladder, and he passed bloody urine. Pressure upon any part of the ilium caused pain at the symphysis pubis. There was also a fissure at that point the width of two fingers. He remained in the hospital and wore a hip-bandage three months, when he could walk very well, although the pubic bones were not quite in apposition.

. Malgaigne has collected four cases of simple separation of the pubes from external violence. Two of them terminated fatally.

Similar lesions occasionally occur during or immediately after pregnancy. They are due to a softening and relaxation of the ligaments and inter-articular tissues of the symphysis. Dr. Fordyce Barker thinks that this condition of the tissues is due to the mechanical obstruction to the return of the venous blood by the pressure of the presenting part of the head of the child. This explanation would hardly seem sufficient to account for the change in those cases occurring early in pregnancy, when the fœtal head can exert but little pressure. And, moreover, if pressure of the fœtal head alone be sufficient to cause this condition of the ligaments of the pelvis, why is it not a more common occurrence? That it is a very rare accident the experience of every practitioner will testify; and that Dr. Barker's reason is sufficient to account for the lesion in every case will be doubted by many.

That there is some profound change in the tissues in these puerperal cases is evident from the manner in which they occur. In the traumatic cases, great force is required to cause separation of the bones, while in the case of a pregnant woman it may take place suddenly, when the patient is walking on a smooth floor, or making some slight movement. The first intimation she has of any trouble is a rapid giving way of something in the pelvic region, followed by pain and

inability to walk except with great difficulty. In the severest cases, the patients cannot even stand, or allow the weight of the body to fall upon the pelvis.

There is also a marked difference in the time required for the bones to become united in the two classes of cases. Traumatic cases recover quite readily, unless life is destroyed by some injury to the pelvic viscera. Cooper's case was nearly well in three months. The patient whose case is reported at the beginning of this paper was in a fair way to complete recovery at the end of two and a half months. On the other hand, it is only the lightest pathological cases that recover as readily; they often require many months. Barker reports a case that took fifteen years for recovery; and Debout two cases which occupied seventeen and fifty years respectively. In the former class, nature soon rallies from the shock, and sets to work to repair the damage; while in the latter class nature does nothing of the kind till pregnancy is terminated, and in many cases not even then.

The treatment required in both instances is similar, although the puerperal class will generally necessitate its continuance much longer than the traumatic. Rest and a pelvic bandage are the two important elements in the treatment. The rest should be absolute, in bed, and continued at least three months in traumatic cases. The bandage should be firm, and should fit closely. It should be ten or twelve inches wide, and have perineal straps to present its slipping upward above the crest of the ilium. It should be worn after the patient gets upon his feet, and as long as he feels any sensation of pain or weakness about the pelvis.

A CASE OF PICA.

BY A. N. GOULD, M. D., CENTRE EFFINGHAM, N. H.

Miss M. E. M. applied to me in August, 1875. She was forty-three years old. Her health had generally been good. She complained of drowsiness; she slept easily in the daytime, especially after dinner. She commenced to menstruate when fifteen or sixteen years old, and was generally regular. Within a year she had flowed very freely, the menstrual flow having at first a "muddy" color, as the patient expresses it, with some red tint; toward the close of the catamenia it was colorless. For two years she had had a longing for innutritious articles. At first she ate charcoal. At present fine sand was craved. Dyspnœa on going up-stairs was marked. The bowels were costive. The tongue was clean. I prescribed compound spirits of lavender, and chloric ether for the dyspnœa, with a laxative and a preparation of iron.

December 12th. I visited the patient at her home. She had taken the medicine as ordered. The appetite for the sand remained. I ob-

tained a specimen for examination. I left about two ounces of carbonate of iron to take the place of the sand, saying that she might take a teaspoonful three times a day.

January 24, 1876. The carbonate of iron was eaten in four days, and the sand eating was again resumed. I questioned her in regard to the amount of sand eaten in a day, and she replied that she could eat a cupful, but feared her supply would fail before winter was over. She ate three or four tablespoonfuls in a day, and there were not many days when she did not gratify her depraved taste, as the habit was too strong to be long discontinued. Her lips were somewhat pale, although she had gained in flesh since the habit was formed. She said that while she had the carbonate of iron she did not want the sand, and that she would give it up if she could have enough of the substitute, although she did not like the latter so well. I ordered two pounds of iron for her especial benefit. She asserted she had eaten "nearly a bushel" of the sand.

She was first seized with a longing to eat the sand when she saw some workmen putting it upon the road near her house. It was only this particular kind that she craved. She laid in a supply for the winter, and baked it to destroy anything injurious that might be in it. She appeared lively, strong, and well. There was some "bloating" at times, but nothing worthy of special notice. I have not had a convenient opportunity to examine the heart and lungs as yet.

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.[1]

BY F. I. KNIGHT, M. D.

Extirpation of the Larynx. — Case VI. (continued). After our paper which appeared in the last number had gone to press, we received a fuller account of Bottini's case.[2] The age of the patient is stated to have been twenty-four. Bottini employed local anæsthesia, deeming it imprudent to produce general anæsthesia by chloroform. He expresses a prejudice against the trachea-tampon, which is not sustained by the experience, now extensive, of German surgeons in the use of this instrument. The growth in Bottini's case involved the entire larynx, and was pronounced to be genuine sarcoma, which is of extremely rare occurrence in this situation. Bottini also gives an account of some operations on dogs, from which he removed the larynges by means of the galvano-caustic knife, without the slightest hæmorrhage, either primary or secondary.

Case VII. — Langenbeck.[3] The patient was a man fifty-seven

[1] Concluded from page 393.

[2] Annales des Maladies de l'Oreille et du Larynx, 1875, No. 6, from Giornale della R. Academia di Medicina di Torino, May, 1875, No. 14.

[3] Berliner klinische Wochenschrift, No. 33, 1875.

years of age, a master-blacksmith, who had suffered about four years from hoarseness and dyspnœa, and had been treated for some time by cauterization of the larynx. A full description of the operation, which was performed July 21, 1875, may be found in the JOURNAL of October 21, 1875. The patient was nourished through the œsophageal tube with eggs, beef-tea, and wine. The pulse was highest on the 22d and 24th, the patient having some diarrhœa on the latter day. The evening temperature on both of these days was 103.6°. On the 28th, his condition continued good, and he was free from fever. With reference to the execution of the operation, Langenbeck says that he considers it much better to operate from above downward, the cutting of the trachea being done the very last thing; the important arteries are tied before they are cut, so that the loss of blood may be reduced to a minimum. He recommends that several Trendelenberg's tampon-canulæ should be at hand, in case any one of them should fail. He advises that tracheotomy should precede the extirpation a sufficiently long time for adhesions to take place between the skin and the trachea. In this way, also, we can more quietly and effectually arrange the tamponade.

Trendelenberg's Tampon-Canula. — As reference has been made to this useful contrivance a brief description of it may interest those of our readers who are not already familiar with it. Nussbaum[1] proposed that tracheotomy and plugging up of the larynx through the mouth should precede resection of the upper jaw, anæsthesia being maintained through the tracheal tube. Below and Trendelenberg, independently of Nussbaum and of each other, proposed more elaborate methods of making the tampon. Below proposed that a rubber balloon should be placed between the canula and the vocal cords, which, being blown up, would prevent any blood flowing into the air-passages. Trendelenberg[2] concluded from his experiments on the cadaver and on animals that such a method as this would not do well on account of the danger of the balloon slipping through the glottis, and also of its provoking cough from irritation of the vocal cords. He devised the tampon-canula, and proved its efficacy at once on a patient. This apparatus, which is introduced into the trachea after tracheotomy, consists of an ordinary tracheal canula, over the vertical part of which a ring-shaped rubber balloon is drawn. This can be blown up through a piece of rubber tubing connected with it and provided with stop-cock, so that it surrounds the canula like a thick roll, and thus obliterates the space between the trachea and the canula.

Artificial Larynx in Case of Stricture. — Dr. Carl Reyher[3] has used Gussenbauer's apparatus with satisfaction in a case of laryngeal stricture.

[1] Canstatt's Jahresbericht, 1869, ii. 440.
[2] Canstatt's Jahresbericht, 1870, ii. 368.
[3] Archiv für klinische Chirurgie, xix. 334.

Even if the vocal part of the apparatus is not used, the maintenance of an opening through the glottis by means of the second canula enables the patient to use the whispered voice, which is of course impossible when the stricture remains tight.

Differential Diagnosis and Treatment of the Various Forms of Bronchocele. — Lücke [1] classifies the different forms of bronchocele as follows: (1) struma hyperæmica; (2) struma parenchymatosa, follicularis (Virchow) lymphatica; (3) struma fibrosa; (4) struma vasculosa (aneurysmatica); (5) struma colloïdes s. gelatinosa; (6) struma cystica (Beck), hydrocele colli (Maunoir).

Simple hyperæmia involves the entire gland. The throat seems larger, rounder, and fuller; the clothes become tight; the larynx is less prominent, and the outline of the sterno-cleido-mastoid muscles is less distinct. The shape of such a throat is by no means uncomely. The hyperæmia usually passes off with the cause (pregnancy, menstruation).

The follicular hypertrophy or parenchymatous struma gives a greater resistance to the touch and a sharper boundary. Some parts are usually more enlarged than others, and are to be distinguished from one another by digital examination. This form rarely attains the size of a small hen's egg in one lobe. The diagnosis depends on moderate size, soft, elastic consistence, and smooth surface.

Struma vasculosa et aneurysmatica belongs to the small or at least moderate-sized bronchoceles. It usually affects the whole gland symmetrically, the form of which is therefore not changed. The most important diagnostic point is the possibility of reducing it to a small size by continuous pressure, which having been relaxed, it fills up again more or less by jerks. The true aneurysmal bronchocele pulsates, and we hear vascular bruits in it.

The colloid form affects not uncommonly the whole gland. The enlargement is symmetrical, and one lobe may become as large as a man's fist. The diagnosis is made from the symmetrical form, and the doughy, almost soft consistence.

The diagnosis of the fibrous form is made from the presence of single hard knots, which can be isolated from one another.

The mixed form most closely resembles the fibrous, but shows a different consistency in different parts. The mixed bronchocele attains the largest size. Those bronchoceles in which the mixture of fibrous and parenchymatous degeneration preponderates are inclined to be pendulous, when small multiple cysts are found in them. When larger cysts form in solid masses, the tumor has usually a broader base.

The diagnosis of the cystic form is made from the fluctuation, eventually also from the transparency, from the globular form of the tumor, and its sharp boundary. Tapping affords the safest conclusion.

[1] Die Krankheiten der Schilddrüse. Stuttgart. 1875.

With reference to medical treatment Lücke says the influence of iodine on thyroid enlargement is not to be doubted, but it is indicated only in tumors containing true glandular tissue. The dose need not be great. Two or three grains twice a day is enough at first. It is best given in simple solution with water.

If the unguentum potassii iodidi is used, a few drops of tinctura iodinii should be added, as the pure, fresh ointment contains no free iodine, and will be efficacious only when it has become yellow, *i. e.*, decomposed. Painting the gland with tinctura iodinii should not be practiced, as the skin is too tender. The injurious effects of iodine on the testicles and mammæ are not easily to be seen.

With reference to the surgical treatment of bronchoceles, it is convenient to consider separately those which are solid and those which contain fluid. The history of the treatment of hard goitres is not much more than a hundred and fifty years old. The ligature of the thyroid arteries was one of the first methods; then came the employment of the seton; later, cauterization, extirpation, and the use of the écraseur.

Opinion has constantly changed, so that no one method of treating solid goitres meets with general acceptance. Ligature of the superior thyroid arteries was finally given up on account of the frequency of secondary hæmorrhage, and because at the best only a diminution in size of the tumor was obtained. The seton was often used in the last century, but was given up on account of the frequency of dangerous inflammation, purulent infiltration, pyæmia, and even hæmorrhage. It has been, however, recently again recommended very strongly by Mackenzie.[1] Cauterization and subcutaneous tearing of the gland are both to be avoided, on account of danger. Lücke thinks well of parenchymatous injections of tincture of iodine in the follicular form of goitre, and thinks it acts specifically as well as locally by inflammation and cicatrization.

The most radical operation is obviously removal, whether by ligature, écraseur, galvano-caustic loop, or the knife. Surgeons generally dread this operation, and advise against it. Undoubtedly extirpation cannot be practiced on all goitres. The gland must be movable, as a first condition, and must not have too large a base. It is still better, of course, if it is pediculated. Hæmorrhage is considered the chief danger. Extirpation by ligature, écraseur, or galvano-caustic loop is dangerous. In all cases in which removal is indicated, it had better be accomplished with the knife.

This operation has been gaining again in favor during the past ten or fifteen years. Lücke says if great care is taken to tie all the vessels peripherally and centrally, there will be little bleeding, and he has never experienced secondary hæmorrhage. Sometimes the operation is very

[1] Boston Medical and Surgical Journal, November 28, 1872.

easy, inasmuch as one may peel out the tumor with blunt instruments up to a thin pedicle. Often, however, as many as thirty ligatures have to be used.

Recently Kocher has proposed to dig out the gland substance. The gland, having been laid bare, is fastened to the edge of the skin on either side; it is then incised, and the gland substance is completely spooned out with sharp spoons and the fingers. The hæmorrhage is profuse and must be stopped by a tampon. This method would be indicated only in parenchymatous and colloid goitres.

One would not expect much from massage. Galvanism is reported to have been successful in some cases (Chvostek).

Treatment of Cysts. — Simple puncture should be made only for diagnosis. Every genuine cyst must be injected with iodine. One should use a trochar sufficiently large, so that small masses may come out. If the cystic fluid contains much sediment, or many granular pieces which have broken off, Lücke considers it very important to wash out the cyst with warm water before injecting the iodine (ten to twenty grammes according to the size of the cyst). The puncture is carefully closed with sticking-plaster or collodion. In many cases cure takes place. Some operators wishing to encourage suppuration, inject a dilute solution of chloride of iron, and leave in the canula (Mackenzie).

In regard to electrolysis Lücke says that in his experience, although the cystic fluid disappeared under electro-puncture, it returned in a week.

Incision of the cyst is well esteemed by Lücke. After an incision has been made down to the cyst wall, this should be stitched to the skin on either side, and the cut into the cyst made between the stitches. If the operation be done in this manner, the bleeding will be less. After the contents of the cyst are evacuated, bleeding from the incision in the cyst wall is best stopped by additional sutures, but bleeding from the interior of the sac must be stopped by plugging with lint. Cure takes place by suppuration, and one must take care that the external opening does not close too soon. Secondary hæmorrhage is the accident most to be feared as suppuration goes on. The vessels cannot usually be found, and plugging up the cavity must be resorted to. Purulent infiltration and septicæmia are also possible, usually, however, only in conjunction with hæmorrhage in persons already enfeebled. In other respects the results of this mode of treatment are very brilliant. Sometimes after the cyst is laid bare the connections with the surrounding tissues may be so loose that it will be better to practice extirpation.

Tonsillotomy. — Saint-Germain [1] speaks strongly against the practice, too common, of trying to excise all enlarged tonsils with the tonsillotome. He says truly that only those which project and have a narrow base

[1] Annales des Maladies de l'Oreille et du Larynx, 1875, No. 2.

should be treated in this manner, but that others, sessile, bilobar, and not prominent, should be excised with the bistoury and long forceps, made for this purpose. Otherwise an insufficient amount is removed from the gland.

AIR AND ITS RELATIONS TO LIFE.[1]

THIS little book aims to present, in what he author calls a "light and popular" manner, information concerning the composition of the atmosphere and its important and essential relations to life and health. The style of the work is very clear and pleasing, and the absence of technical scientific terms conspicuously adapts the volume to the general reader. The writer's purpose to impart a summary of the knowledge with regard to the properties of the air has been fulfilled very satisfactorily. To be sure, we do not find much that is positively new and original; but the ability to condense and define and compare the researches of others, to discriminate between the false and the true so as to present an exact and impartial view of existing knowledge, is an accomplishment of no mean order.

The information imparted by the book has to do principally with the chemistry of the air, and comprises the discussion of the properties of the various atmospheric constituents, illustrated by experiment and demonstration. But there are numerous instances in which the author has turned aside to point out the significance of the various elements with regard to health and the vital processes. Thus, he gives considerable space to the principles and practice of ventilation, to ground-air, and to the germ-theory of disease. All these subjects he treats in a very comprehensive manner. We may remark, however, in passing, that he seems to us to give undeserved weight to the ventilating force of the transpiration or diffusion of air through the apparently solid, though really porous, walls of buildings — a principle long ago demonstrated by Roscoe, and more recently reiterated and confirmed by Pettenkofer. This source of air-renewal is entirely inadequate; and while no one can doubt its existence after the experimental tests which Pettenkofer has applied for its demonstration, it is nevertheless more curious than useful with regard to ventilation.

The last two chapters of the book are devoted to a discussion of the germ-theory. The author places himself unreservedly with the believers in that theory. He quotes Pasteur admiringly, and has considerable to say in disparagement of Dr. Bastian's well-known views and experiments. Sometimes, indeed, his style of argument with regard to his opponents transcends the didactic and becomes pungent, as, for example, when he says of Bastian that "he reasons from premises that he has not first established;" and, again, "If on the one hand, we are asked to believe the arguments of Dr. Bastian, we cannot admit his experiments; and on the other, if we are asked to believe his experiments, we cannot assent to his arguments; but as his reasoning and his experiments should both be in harmony, we see that he has failed completely

[1] *Air and its Relations to Life.* By WALTER NOEL HARTLEY, F. C. S., Demonstrator of Chemistry and Lecturer on Chemistry in the Evening Class Department, King's College, London. New York: D. Appleton & Co. 1875.

to make a case." In truth, we have found in these closing chapters a special satisfaction, because of the clearness with which the positions of the combatants concerning the germ-theory are defined.

RECENT PROCEEDINGS OF THE ROXBURY MEDICAL SOCIETY.

WILLIAM P. BOLLES, M. D., SECRETARY.

Dr. Cotting presented a case of fracture of the skull and showed the specimens. (See page 409.)

Dr. Cheever, in commenting upon Dr. Cotting's case, referred to the points brought out at the trial, and especially to the principal one whether the injuries could have been produced by a single blow or not. The theory that they were produced by the accidental fall of the trap-door, as brought forward by the counsel for the defense, of course required that a single stroke could do all the damage. All the experts were agreed, however, that the blows upon the skull and nose were entirely distinct from each other, and must have come in different, though not opposite directions, and therefore could not have been such as the falling trap-door would have given. The blow upon the face came probably somewhat from above downwards, those upon the skull at right angles to its surface. A child's skull has been placed under a model of the trap-door in every imaginable position, but no one was found in which it was possible to inflict two injuries bearing similar relations to those in the case at hand. Dr. Cheever further believed that the injuries to the skull were produced by several separate blows.

Dr. Arnold was satisfied, from an inspection of the specimen, that several blows must have been required to produce the various fractures.

Dr. Bolles agreed in the main with Drs. Cotting and Cheever, but thought it not absolutely necessary to assume a multiplicity of blows to explain the fractures of the skull, considering it possible to produce such an injury by one blow of sufficient force and quickness, yet he thought it equally probable that more than one were given. In case several were assumed, he did not quite agree with Dr. Cotting's location of them.

Retarded Union of Fracture due to Syphilis. — Dr. Arthur H. Nichols read a paper upon this subject, illustrated by the following case. The patient was an intelligent gentleman, aged thirty-nine, an officer in a cavalry regiment during the recent war, possessing an exceptionally fine physique, with great muscular development. In the month of February, 1874, he slipped and fell upon an icy sidewalk, producing an oblique and slightly comminuted fracture of the tibia at a point two and one half inches above the malleolus. The fracture was properly reduced, and the parts maintained in apposition by the ordinary and appropriate treatment. At the expiration of five months an imperfect, cartilaginous union only was obtained; and though the degree of motion between the fragments was not so extensive as to preclude the possibility that some slight attempt at ossification had been made, the seat of the fracture was, nevertheless, indicated by a depression in place of a callus, the

flexibility of the limb at this point being well marked. It did not appear that this failure of reparation, which is of such very rare occurrence, could be attributed to any of the common causes of false joint after fracture. The fracture was not a compound one; nor was the injury of a crushing character, by which the vitality of the bone is known to be annihilated or impaired. There was nothing in the age or apparent condition of the patient calculated to prevent consolidation. The direct supply of blood to the injured extremity had not been cut off by any injury to the main arteries, nor was there any suspicion that the nutrition of the limb had been interfered with by tight bandaging. The patient, indeed, admitted that during the early part of his confinement to bed there had been considerable involuntary motion in the limb at night; but where there is no great displacement of the fragments it is not commonly thought that any ordinary amount of motion at the seat of fracture can seriously interfere with a reparation of the bone. At all events, this motion could have exerted no influence in preventing the subsequent consolidation of the cartilaginous union. Upon further inquiry into the constitutional tendencies and personal history of the patient, the fact was elicited that there existed the most unequivocal signs of *syphilitic contamination*. About five years previous to the date of the injury, he had contracted what was pronounced a true Hunterian chancre, which was followed by a specific affection of the throat, glandular enlargements in the neck, and the loss of hair. He received at that time appropriate treatment, and at the expiration of two years (having in the mean while been assured that he was cured), acting upon the advice of his physician, he married. His wife, who previous to marriage had enjoyed perfect health, subsequently gave birth, at different times, to three children, born at full term, each of which manifested the usual external signs of syphilitic infection, living but a few days. The wife, moreover, herself gave evidence of specific infection, having suffered from ulcerated sore throat, partial alopecia, and chronic headache, while her general physical condition had greatly deteriorated. In view of this evidence, therefore, that the system of the patient was still laboring under the influence of syphilitic virus, it seemed not unreasonable to conclude that the nutrition of the injured limb had been thereby unfavorably influenced, resulting in some morbid change at the point of fracture, by means of which a soft and flexible substance had been thrown out in place of the normal compact structure, a pathological phenomenon well known to occur where fracture is co-existent with phthisis or with pregnancy. The anti-syphilitic treatment was accordingly adopted, combined with salt-water baths and horseback exercise, with the result that at the expiration of two months a very decided improvement was perceptible, while at the end of six months bony union appeared to be perfect, and the full use of the limb was regained. Although it was a matter of some doubt as to the influence exerted in this instance upon the consolidation of the fracture by the presence of syphilitic virus, the case seemed, nevertheless, worthy of presentation as illustrative of a connection which has long been supposed to exist between two lesions bearing no apparent connection to each other, and deriving especial importance from the medico-legal questions to which injuries received under similar circumstances might give rise.

Fracture of Rim of Pelvis; Hæmorrhage from the Bowels on the Third Day. — Dr. Seavens reported the case. On September 16, 1875, at seven A. M., was called to see D. M. Found him in bed, suffering great pain. Pulse 90; nervous agitation extreme. Stated that during the previous night he was knocked down and severely kicked on the hip. On examination, a contusion about two inches long over left hip was visible, and on manipulation crepitus was apparent, and it was evident that a portion of the rim of the pelvis was broken off and turned in. The fragment was quite movable, every motion of it giving him great pain, but could not be turned out into its proper position.

The patient's knees were drawn up, and lateral motion of them moved the fragment; upon extending them carefully, the piece became less mobile, and the patient expressed himself as feeling more comfortable. Has passed water freely, unaccompanied by blood. In the afternoon the patient was still suffering greatly; a jacket was made to fit around the pelvis, and towels folded over the abdomen placed under the jacket to prevent motion of the fragment. One natural dejection. Opiates pro re nata.

Dr. John Homans saw the patient the next day, confirming the diagnosis. Fragment not clearly defined on account of the patient being a large, muscular man, but seemed to extend from just above the inferior spinous process backward to the middle of the rim of the pelvis. Patient had five loose dejections, and urinated freely.

On the 18th patient was still very restless; bowels still loose, but no blood in urine or fæces.

On the 19th the patient was more comfortable. Pulse 72. Had had three bloody dejections, the first two largely composed of coagulated blood, the last with some fresh blood and blood specks.

From that time no further hæmorrhage took place, and the patient improved steadily. The fragment continued to be somewhat movable until the 27th inst., and on the 30th it seemed quite firm, and his recovery followed rapidly. At that time the fragment was still tilted in, although less so than at first. Patient not seen since.

Partial Separation of the Placenta. — Dr. Goss reported the case. A woman, twenty-two years old, had been mother of two children, and had an abortion last April, soon after which she again conceived. Uterine hæmorrhage began about the middle of October and lasted until January, at intervals. January 3d she passed a large clot, but had no further hæmorrhage at that time. Upon examination, Dr. Goss found the womb enlarged to the size of seven months. The fœtal heart could be heard, as well as the placental souffle. Patient feeble. A few days after this, labor began, the head presenting. When the os was partially dilated, one of the pains produced a sudden gush of blood; Dr. Goss then dilated, ruptured the membranes, and the labor progressed naturally. The child weighed three and three fourths pounds. The placenta was then removed, although somewhat adherent. From the continuance and time of the bleeding it was considered to be a case of partial separation.

Scarlet Fever, Acute Rheumatism, Peri and Endo Carditis, and Acute Nephritis; Partial Recovery, Relapse, and Death. — Dr. Bolles reported the case. A little girl of seven years, bright, and in perfect health, was taken ill

with scarlet fever of an unusually mild type. The symptoms were characteristic, but light: vomiting, a little headache, pulse somewhat raised, temperature about 102°, slight soreness and considerable redness of the throat, general and distinct eruption, and in a few days an unmistakable strawberry tongue. Within a week desquamation began. She sat up in bed (but did not get out of it); she seemed to be doing well, and gave every promise of a rapid recovery, when she began to complain of her arms, which, she said, ached. This trouble, at first light, increased until the eleventh day of her sickness, when it had developed into a well-marked acute rheumatism, with thirst, dry tongue, hot skin, and swelling, tenderness, and pain of both wrists and one ankle. The tongue, at first white, afterwards became dry along the middle and white at the sides. Temperature 103.5°. Pulse 132. There had been a little cough for a day or two, but it was troublesome only as it jarred the inflamed joints. The urine was made slightly alkaline, and kept so for a few days.

Two days after, she passed a very restless night, with pain in her side and "stomach," and was uneasy and greatly distressed. The pulse had risen to 144; the temperature, however, was not high. A loud pericardial friction could be heard all over the chest, drowning every other sound except a pleuro-pericardial rub, which was heard either at that time or very soon after. The little patient was at this time a truly pitiable sight, the distress for breath and that around the heart prompting her to frequent changes of position in order to relieve it, while the tenderness of her joints made movement almost impossible.

There was also about this time some local inflammation of the left lung; for two days after this were noted "fine râles on the left side," and once or twice after this they were noticed again. At no time was Dr. Bolles sure of dullness there, although one day it was noted as suspected. During the next ten or eleven days she went along with the usual symptoms of acute peritonitis, such as accelerated breathing and pulse, and vague, sometimes definite distress in the left chest. There were also frequent attacks of distress referred to the stomach, and vomiting. There was no great dyspnœa at this time, and the appetite was unusually good.

Eleven days after the beginning of the pericardial trouble the friction sounds had almost disappeared, those which remained being mostly pleural, and a loud, hoarse, endocardial murmur had taken their place, either having just begun or being perhaps uncovered by the disappearance of the other sounds; there was occasional distress in the bowels. Pulse 144. Respiration 50.

The râles were still present in the left lung. For the next three or four days she grew worse, the same symptoms increasing, as the following note will show: "Heart's action tumultuous, murmur loud, and sometimes musical. Vomiting, distress in bowels, a little fluid in abdomen. Pulse 152. Respiration 80." Next day she preferred to sit up, and on the day following could not lie down. This was the twenty-seventh day of her sickness, and from this time until death, forty-seven days later, orthopnœa had never been absent.

Up to this time her urine had not been affected, but now it was greatly diminished in quantity, and thick and white with urates, but without albumen or casts. It was passed but once a day, not more than three ounces at a time,

and once not a drop was voided for more than twenty-four hours. The dyspnœa was becoming distressing; she could neither lean back nor forward nor toward one side for an instant, but either sat in her father's arms or rested her chin in his hand, and took short, miserable naps in that way. Her tongue was covered with aphthous sores, dry, round, and clumsy. She could say only one syllable with each breath, and that became at last unintelligible; thirst and cough were constant; she groaned incessantly, and vomited what little food she could be forced to eat; her appetite was entirely gone, and her spells of retching were frequent and long. The legs were rapidly swelling, and the face was puffy and shining. Tracheal râles and subsultus were present, and her death was daily expected. The heart-murmur was constantly changing from loud to low, and rough to smooth, but always, when well defined, heard with the systole, and best at the apex. Then albuminuria, blood, and casts appeared, and the urine gradually increased in quantity. The pulse ranged from 120 to 160, and the respiration attained a maximum of 80.

The orthopnœa slowly diminished for about five weeks, during the latter half of which time she was very comfortable, and gave promise of quick recovery. She ate and drank well, and played all day; there was no pain and no vomiting or distress. The albuminuria had gradually diminished, and finally both albumen and casts had for two or three days entirely disappeared. The cough, however, was still present and pretty troublesome; râles could be heard in both chests, especially on the left side, and there were dullness and bronchial respiration on the left. She always rested by lying over the rail of the left side of her crib, or in some such way, so as to bring the left lung below.

After apparently passing through all these troubles safely, nearly nine weeks from the beginning of her sickness, and four from the first appearance of albumen and casts, and several days after they had disappeared, she was a second time taken with vomiting, pain in bowels, suppression of urine, and blood, while albumen and casts returned, and all the previous symptoms became aggravated. The œdema became excessive, the breathing short and shallow, and at the last the superficial veins were swollen, the lips livid, and death occurred seventy-four days from the beginning of the fever.

Autopsy. — There were about four ounces of fluid in the peritoneal cavity, twelve ounces in the right and eight in the left pleural cavities. There had been no pleuritis upon the right side, but the left lung was bound by a number of pretty strong adhesions, and the left side of the pericardium was adherent to the side of the chest by its pleural surface, holding the heart somewhat to the left. The lungs were œdematous. The pericardial sac was obliterated by adhesion of its walls, which could be separated, however, by a little force. The heart was enlarged by dilatation, and flaccid. The mitral valve bore a ring of little vegetations entirely surrounding its opening. Kidneys large, pale, "coarse-looking," not examined microscopically, but evidently considerably degenerated.

THE SEWERAGE OF BOSTON.

The Board of Health of Boston, after repeated petitions, succeeded last spring in getting a commission appointed to report a plan for relieving the bad condition of our sewerage. This commission reported three months ago. Ample time has passed in which to criticise its conclusions, but no serious attempt to overthrow them has been made by any person of good information. The plan proposed rests, in brief, upon the following points. First, rejection of "dry removal," and of the "pneumatic method," as involving too many elements of uncertainty, and offering probabilities of pecuniary failure. Second, remedying the low grades of Boston by building an "intercepting sewer" of great size at a still lower grade than the other sewers of the city, the sewage being raised to a sufficient height for discharge by pumping, somewhere near the point of exit. Thirdly, the removal of the point of discharge to a part of the harbor where (it is believed) the tide will carry sewage quite out to sea before the flow. Thus the present sewers will be enabled to discharge a continuous current, and matters thrown in after breakfast will reach the ocean before night on the same day, while the choking of sewers by sediment is prevented, and no time is allowed for the decomposition of matters and consequent generation of poisonous gases in the sewers. And, moreover, no sewer will henceforth be permitted to discharge upon the coast line of Boston; all their contents will be taken down to Moon Island.

The programme is very clear; the objections made to it are not so clear. One thing, however, is evident: this measure, so essential to the health of our city, is in danger of being passed over, not from indifference, not from a spirit of active opposition, but from the fact that it involves an expenditure larger than our municipal government is in the habit of incurring for such objects. The members of the government are not yet willing to take the responsibility, but there is good reason to hope that if they were assured of the support of the citizens they would vote this indispensable measure at once. The action of the Health Department of the Social Science Association in calling a public meeting at the City Hall is therefore deserving of great commendation. It has succeeded in increasing the public interest, and in getting the question of sewerage definitely placed before our citizens as the most important local question of the day. We were glad to see that the medical gentlemen who spoke were strongly of the opinion that the "park question" ought not to be considered as at all connected with the question of sewerage. Such a connection might be fatal to the success of a scheme of a sanitary value far higher than that of a park could possibly be. This meeting is the first of a series which will be held in different parts of the city, with the same object in view. It is to be hoped that the interest thus aroused in this important project will throw the weight of public opinion so strongly in the scale as to remove all doubts from the minds of those who are now hesitating. A careful study of the causes which have led to the present lamentable condition of the sewerage of a peninsula like Boston, possessing unusual natural advantages for drainage, and of the measures for relief proposed, would be instructive to all who take an interest in sanitary science.

MEDICAL AFFAIRS IN JAPAN.

UNDER the heading Modern Medical Progress in Japan, the *Medical Times and Gazette* of March 4, 1876, gives an interesting abstract of papers contributed to the *Berliner klinische Wochenschrift* by Dr. Wernech, of Jeddo. The new clinical hospital at Jeddo, a temporary building, though occupying a space of ground nine hundred feet long and six hundred and seventy feet wide, contains only about one hundred and thirty medical and the same number of surgical beds. The rest of the ground is occupied by laboratories, theatres, etc., connected with the school. The buildings are *more Japonico*, of but one story. Wood is the material almost entirely used in the construction of the hospital, and in consequence of the combustible nature of the buildings all the scientific instruments and apparatus, as well as the collections of anatomical and pathological specimens have to be kept in special fire-proof rooms apart from the rest of the hospital. The wards are low, dark, and too much dependent on chance for their proper ventilation. Too much air blows in in winter through the cracks and openings around doors and windows, while in summer it is difficult to get air enough. Other causes intensify the defects of ventilation: the use of braziers, containing hot ashes, by patients and nurses to warm their hands; the smoking of tobacco by every one, even by the patients, unless they are in contact with the doctor; and the water-closets, which "are erected in inconceivable numbers in all possible and impossible places" in the hospital. According to the old system, the patients used to lie fully dressed, or else clad in a padded robe, *on the ground*, and the physician had to stoop over or kneel by any one whom he wished to examine. Now, however, beds have been introduced, but a number of trifling ceremonies have to be gone through with if a patient has to assume an attitude other than his ordinary one. The Japanese furnish themselves with all kinds of books, flowers, etc., to make their time in the hospital pass pleasantly, and every bad case has a special nurse to attend on it day and night; nor do the numerous staff interfere with one another, although there may be six or eight nurses to as many patients in a moderate-sized ward.

Some of the Japanese customs are peculiar. If a sick child enters the wards, a whole family comes with him, surrounds the child's bed, and there remains until he gets well. The friends of patients come in to see them at all hours, even when the doctors are on their rounds, but they behave so quietly and with such politeness that they give rise to much less interruption than would otherwise be the case. This politeness manifests itself in various ways; for instance, if a patient is ordered by the doctor to suspend his smoking, even for an hour or two, he frequently leaves the hospital, or else, if an out-patient, refuses to come in. He does not, however, make the smoking-grievance the ground of his refusal, but states either that his father is dead, or that he has some urgent business to attend to which will occupy him several days.

MEDICAL NOTES.

— It is our painful duty to record the sad and untimely death of Dr. Alfred L. Haskins, of this city, on the 3d instant. On the afternoon of that day he visited at the Huntington House a patient who lived on the fifth story. A few moments later he was found fatally injured, lying at the bottom of the deep well around which the stairway winds. For some weeks previous he had been the subject of great mental depression, which had been either produced or greatly aggravated by professional disappointments following close upon one another and culminating, after an exciting contest, in his failure to obtain an object of life-long ambition. It must not be inferred, however, that Dr. Haskins's career was in any sense a failure, although in the struggle for existence in a profession greatly overcrowded it may, at times, have seemed so to him, as it has to many another who has ultimately reached posts of honor. His industry and abilities were recognized at an early age by rich and influential friends, who enabled him to acquire a university education. Having graduated at Amherst College he entered the Harvard Medical School, where he earned a good name with his teachers for fidelity. He enjoyed the advantages of a pupilage at the Massachusetts General Hospital and of a prolonged stay in Europe, spending most of the time in Vienna. He began practice ten years ago, most thoroughly prepared for the work before him. During this short period he had served in several honorable positions, and at the time of his death was superintendent of the Boston Dispensary, having previously served in several of its departments. He was also connected for a long time with the out-patient department of the City Hospital. This certainly was a record most satisfactory for a career so short. The testimony of his friends given at the inquest showed his mind to have been clearly deranged, and pecuniary difficulties and bitter professional opposition to have greatly aggravated this condition. It seemed impossible to determine whether his fall was caused by a sudden attack of vertigo, or was purely accidental. His aged mother, we are sure, will have the warmest sympathy from his very numerous friends in the profession for her terrible bereavement.

— The Ninth Annual Report of the Board of Trustees and Officers of the Minnesota Hospital for Insane for the year ending November 30, 1875, shows that at the beginning of the year there were three hundred and eighty-one patients in the institution. The number admitted during the year was one hundred and eighty-eight, and the number remaining at the close of the year was four hundred and thirty-four. The superintendent, Dr. Cyrus K. Bartlett, in referring in his report to the necessity of further accommodations for the insane of the State, discusses the advisability of the plan of separate institutions for chronic and acute cases, or, as is generally expressed, incurable and curable subjects. He thinks such a plan is unwise, impracticable, and inexpedient, and that a better and in the end more economical plan would be to provide suitable hospitals for all classes of insane patients within reasonable distances of the centres of population. For purposes of lighting the hospital, gas

manufactured from naphtha has been recently introduced. It is estimated that the expense of this gas will not exceed three dollars a day for three hundred burners.

— At a recent meeting of the Pathological Society of Philadelphia, as reported in the *Philadelphia Medical Times* of February 19, 1876, Dr. Bertolet exhibited cases illustrating the regeneration of nerves after excision. The portions of reproduced nerves were derived from the musculo-spiral and the radial. They both exhibited the button-like cicatricial neuromes, the central swelling in both specimens being markedly greater than that of the distal end. The intermediate regenerated part of the nerve measured over an inch in the former, and nearly two inches in the latter specimen; in both cases it presented medullated nerve-sheaths and sharply-defined axis cylinders, and was indistinguishable microscopically from a perfectly normal nerve, thus showing how complete the reparation had been.

— Dr. E. T. Robinson reports to *The Medical Record* of March 4, 1876, a case in which apomorphia was successfully used. His patient, a boy three years old, accidentally swallowed a bi-convex, lens-shaped tin whistle. It was found to be lodged near the cardiac terminus of the œsophagus. This canal was completely closed, as was shown by the vomiting of any food he attempted to take, but none of the contents of the stomach was ejected with it. One twelfth of a grain of apomorphia was administered hypodermically in the patient's arm. In three minutes the emetic quality of the drug was manifested by pallor. The boy was then placed in bed, flat on his belly, when, after three or four violent attempts, the whistle, together with the contents of the stomach, was expelled.

— *The Richmond and Louisville Medical Journal* for January contains a biographical sketch of the late Dr. John Davis Jackson, of Danville, Kentucky. He was born in 1834, received his academic education at Central College, and attended his first course of medical lectures in the medical department of the University of Louisville. He graduated in 1857 at the University of Pennsylvania. At the breaking out of the war he was established in a good practice, which he abandoned to enter the Confederate service. After the war, he became the leading physician of Danville. He found time, however, to pass a season in New York, and subsequently to visit Europe for the purpose of prosecuting the study of his profession. His health began to fail in 1873, and last winter was spent by him in Florida. Although he was at Louisville during the last meeting of the American Medical Association, his health prevented his attendance at any of the sessions, and resolutions of sympathy for his illness were passed by the association; at that meeting he was elected first vice-president of the association for the ensuing year. He died on the 8th of December last. Dr. Jackson was held in high esteem by his professional colleagues, if we may judge from the wide-spread feeling of regret for his early death, and the numerous expressions of respect for his memory.

— The effect of medicines upon the teeth is discussed by J. F. P. Hodson, D. D. S., in a communication to *The Medical Record* of February 1, 1876. The writer, while admitting that the teeth often decay during sickness, is persuaded that the exhibition of acid remedies has comparatively little to do in

causing their destruction. The acid condition of the secretions of the mouth which occurs during any illness involving a feverish condition, the high temperature of the buccal cavity at such times, and the fact that little attention is apt to be paid during sickness to keeping the patient's teeth properly cleansed, all combine to favor the decay of the teeth. To prevent the occurrence of this misfortune the physician should insist that proper attention should be paid to cleansing the teeth in sickness. The acid condition of the secretions of the mouth may be neutralized by causing the patient to rinse his mouth frequently with some alkaline solution, such as lime-water, diluted according to the sensitiveness of the mucous membrane, and flavored with a few drops of wintergreen or peppermint, or to rub prepared chalk freely about and between the teeth and allow it to remain during the night. When acid medicines are administered, the mouth should be immediately afterwards thoroughly rinsed with lime-water or a solution of bicarbonate of soda; in this way the evil effects of any acid remedy upon the teeth will be entirely obviated.

BOSTON CITY HOSPITAL.

MEDICAL CLINIC.

[SERVICE OF DR. HALL CURTIS.]

Phosphorus Poisoning. — I. C., a well-built, healthy-looking man, twenty-three years old, entered the hospital March 21, 1876, with the following history. Deserted by his wife and unable to obtain work, he had the day before entrance walked to South Boston, a distance of twenty-six miles, having a supper of bread and milk, his only meal that day. Tuesday morning he bought at an apothecary's in South Boston a box of rat poison, "said to contain arsenic, but having a smell of matches." This he mixed in a glass of beer and drank at nine A. M. During the day he took no food. At five P. M. he noticed pain at the epigastrium, which persisted, growing more severe, and at last accompanied by vomiting.

He entered the hospital sixteen hours after the poison was taken. When first seen by the house-officer he was walking about the ward, complaining of great pain in the epigastrium and right hypochondrium, with constant retching. An emetic of mustard and warm water caused very free vomiting, but nothing peculiar was marked in the vomitus. Sulphate of magnesia was given hourly in small doses till the bowels were moved, and a mustard poultice was placed over the epigastrium.

March 22d. At the visit he was half sitting up in bed, his face pale and cool, three ecchymoses on lower lip, tongue slightly coated, no jaundice, epigastrium somewhat tender, legs and feet warm, respiration tranquil, pulse 70, great thirst, constantly drinking water that was soon ejected. He complained of the pain and the vomiting, though these symptoms were not present at the visit. He seemed pretty comfortable, though depressed. He was ordered milk and lime-water diet, with an ice-bag to stomach. The vomiting and pain persisted

during the day and night. At four A. M. March 23d, the house-officer found him collapsed and failing rapidly. Temperature 97.8°. Respiration 52. Pulse 130. No pulsation at radials. Stimulants were given by rectum. He died at 4.30 A. M., forty-six and a half hours after taking the poison. The autopsy was made by Dr. Bolles on the 24th, with the following results: —

"The changes noted at the autopsy were, a small amount of serum in the arachnoid space, with some dullness of the arachnoid over the hemispheres, and slight congestion of the pia mater. Brain normal. The heart was pale and soft, and had several small hæmorrhages under the pericardial surface of the auricles. Its muscular tissue was slightly yellowish and soft, but not friable; its cavities contained considerable soft-clotted blood. The peritoneal surface of the small intestine, especially in the upper half of the abdomen, was congested. The stomach contained three ounces of thick, greenish-yellow matter, partly consisting of milk, partly perhaps of mustard. The small intestine contained also a considerable quantity of similar but more bronze-colored matter. Neither the stomach nor the small intestines appeared inflamed or congested. The liver was not enlarged or inelastic, but both externally and internally it was of a bright golden-yellow color. Kidneys pale, the tubules indistinct, with a yellowish tinge between the cortical and medullary portions. The contents of the stomach and intestines were given to the hospital apothecary, who reported the chemical evidences of phosphorus, but no arsenic. Phosphorus was also found in the urine. Dr. Edes examined the liver, heart, and kidneys microscopically. He found in them all excessive fatty degeneration, and had never seen kidneys so uniformly fatty."

Persistent Jaundice; Hepatic Enlargement; Rapid Elevation of Temperature; Death. — John S., aged fifty-seven, entered the hospital March 22d. Twelve years ago he had an attack of yellow fever. Otherwise he has always been well until the autumn of 1874. He became dizzy and uniformly jaundiced; then followed loss of muscular power. He was unable to walk, or even turn in bed. This condition has continued until the present time, with occasional slight improvement in strength. He has been free from pain.

March 23d. In bed. Tongue covered with a thick, scaly, brown crust. Conjunctivæ yellow. Skin universally very yellow. Hepatic dullness in mammary line five and one half inches. The edge of the liver could be felt projecting below the ribs; it was smooth and regular, but tender on pressure. No enlarged or indurated glands were noticed. No enlargement of veins, no œdema. Heart-sounds distant and irregular; no murmur; mucous râles at base of right back; constipation; vomiting yesterday. He was treated with nitro-muriatic acid and compound infusion of gentian. Pulse 100. Temperature 102.5°.

March 25th. Pulse 96. Temperature 100°. P. M. Temperature 98.5°.

March 26th. Temperature, A. M., 104°; P. M., 104.5°. During the night he had a rigor, with delirium. At the visit he was found rather dull, but rational, answering very slowly and in a low tone. The pulse was small and intermittent. Skin covered with profuse perspiration.

His condition remained the same till the 29th, with the temperature varying from 99° to 101° A. M., and 103.7° to 104.2° P. M. This day the extremities

became cold. Ecchymosed spots appeared on the lower lip, and he gradually failed.

March 30th. Frequent vomiting. Slight amount of ascites noticeable. An erysipelatous inflammation of nose. At eleven A. M. rigors, followed by death at eight P. M. Autopsy not allowed.

The "Chambers's mixture" alluded to in the last report is as follows: —

℞ Potassæ acetatis,
Potassæ bicarbonatis . . . . . āā ℥i.
Aquæ . . . . . ℥xv. M.

HALL CURTIS, M. D.

THE TREATMENT OF INSANITY.

MESSRS. EDITORS, — Dr. Wilbur, superintendent of the idiot asylum at Syracuse, and formerly for nearly twenty-five years at the head of a state insane asylum, has just published an interesting account[1] of a recent trip to Europe, which is worthy of very general attention and careful consideration. The report is written in a fair spirit, without any disposition to exaggerate faults or virtues in asylum treatment, either at home or abroad.

According to Dr. Wilbur, the chronic insane increased six per cent. in New York during the year 1871; and this leads him to a discussion of the curability of insanity, which is the fairest that I remember to have seen in print. Statistics are fallacious on this point; in one asylum the same patient was credited with five recoveries in several years. About forty per cent. generally get well, but perhaps half of these remain permanently so. It has been said and often repeated of late that early treatment by sending patients to asylums will secure ninety per cent. of recoveries; and the statement has been based on the fact that a large proportion of those so treated in the first few weeks or months of the disease get well, whereas the reverse is true of long-standing cases. Dr. Wilbur shows that the patients who are usually sent to asylums early are those in whom violent acute symptoms develop rapidly, and who would, most of them, get well under any sensible treatment. In the slow insidious cases, the patient more rarely gets well, whether at home or in an asylum. The statement would be made forcible if we used lung diseases for a comparison. The cases sent to hospitals early (pneumonia, pleuritis, etc.) get well in large numbers. For those who come late (consumptives) we can do little else than prolong life; could we do much more if they came earlier?

The general features of English asylum-life described by Dr. Wilbur are tolerably familiar to the readers of the JOURNAL. He says, —

"To one familiar with American asylums or hospitals for the insane, there are some features in the management of British asylums that especially impress him: the great degree of employment or occupation furnished the patients; the absence of excitement among the patients, and the seldom recourse had to seclusion or any form of mechanical restraints; the large percentage of patients who occupied associated dormitories; the practice of assembling the patients in large dining halls for their meals; the employment of females, in

[1] Management of the Insane in Great Britain. A Report to the State Board of Charities of New York, by H. B. Wilbur, M. D.

many instances, in the care of male wards and as nurses in convalescent wards; the economy of management, seen both in the construction and current expense accounts; the fullness and minuteness of the daily and periodical reports and records of the several officers, and, finally, the thoroughness and efficiency of the governmental inspection through the boards of lunacy of the three kingdoms.

"The two points first named, that is, the general employment of the patients and the absence of excitement, seem to be related as cause and effect, and were always so spoken of both by the superintendents of the institutions and the members of the boards of lunacy."

In the fifteen asylums visited, Dr. Wilbur found sixty-eight per cent. of the patients employed, in this agreeing with the observations of Dr. Edward Jarvis made a dozen years ago. A large proportion of the patients were taught trades after being admitted to the asylums. The following interesting list, showing the disposal of the patients for one day in the asylum of Dr. J. Crichton Browne, is given with a commendation as to the efficiency of their labor.

WEST-RIDING LUNATIC ASYLUM.

MALE DEPARTMENT, JULY 26, 1875.

Number of patients employed in out-door occupation	181
Number of patients employed in brew-house	9
Number of patients employed in engine and gas-house	7
Number of patients employed in blacksmith shop	4
Number of patients employed in plumbing	2
Number of patients employed as joiners	9
Number of patients employed in shoemaking	15
Number of patients employed in tailoring	24
Number of patients employed in weaving	25
Number of patients employed in upholstering	6
Number of patients employed in knitting	19
Number of patients employed in tin-smithing	2
Number of patients employed in painting and papering	5
Number of patients employed in book-binding	3
Number of patients employed in stone-masonry	3
Number of patients employed in mining	3
Number of patients employed in whitewashing	4
Number of patients employed in picking hair or other occupations	49
Number of patients employed in kitchen and wash-house	20
Number of patients employed in assisting in wards	142
Total employed	532

MALE PATIENTS UNEMPLOYED.

Sick or too feeble	18
Aged and infirm	45
Too low-spirited	31
Too much excited	47
Too little mind	25
Able but unwilling	10
Total unemployed	176
Total number of males	708

FEMALE DEPARTMENT.

Employed in laundry and wash-house	65
Employed in passages and kitchen	67
Employed in sewing	223
Employed in knitting	40
Employed in cutting-out room	8
Employed in cleaning wards	82
Total employed	485
Total unemployed	214
Total number of females	699
Percentage of patients employed	72

Dr. Wilbur speaks of the great benefit of employment in allaying excitement among the insane, and reminds the reader that it is, in England, the substitute for "mechanical restraint," so much used in this country. He alludes to the benefit obtained in so many English asylums from removing the prison appearance by abolishing, in a large degree, bolts and bars. Under the more liberal treatment of the insane themselves and frequent inspection by the commissioners of lunacy, the strong prejudice that formerly existed against asylums has gradually given way to a different feeling.

With American superintendents the subject of mechanical restraint is a tender one. Their reasons for using it so largely are that they think the American more excitable and less easily controlled than the Englishman, and that insanity assumes a more severe type here. They say also that there are more accidents under the non-restraint system. Impartial observers do not by any means all agree with the first proposition. As to the second, Dr. Wilbur shows that, in 1874, seven accidental deaths and five suicides occurred in twenty British asylums, taken at random and containing fifteen thousand patients; in thirteen American asylums containing three thousand five hundred inmates, of which the statistics are given in the report for 1875 by the Commissioner in Lunacy of New York, twelve suicides occurred; no mention was made of other casualties.

The writer concludes with an earnest recommendation for the establishment of boards for inspecting asylums, similar to those now existing in England, a necessity for this country of which Dr. Bucknill has recently spoken most forcibly.

We would have been glad to see more in this excellent report in regard to medical education in asylums, training of attendants and nurses, pathological research, and facilities for the individual treatment of acute cases in small buildings, points in which other countries are far ahead of us.

There are above twenty-five thousand insane in the asylums of the United States; there must be nearly or quite as many in private houses and almshouses. The subject, therefore, is one which we cannot afford to neglect, and all such papers as Dr. Wilbur's should be welcome contributions to a good work.

C. F. F.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING APRIL 1, 1876.

	Estimated Population.	Total Mortality for the Week.	Annual Death-Rate per 1000 during Week.
New York	1,060,000	587	29
Philadelphia	800,000	391	25
Brooklyn	500,000	231	24
Boston	342,000	156	24
Providence	100,700	33	17
Worcester	50,000	24	25
Lowell	50,000	21	22
Cambridge	48,000	13	14
Fall River	45,000	14	26
Lawrence	35,000	17	25
Lynn	33,000	14	22
Springfield	31,000	14	23
Salem	26,000	8	16

Normal Death-Rate, 17 per 1000.

MESSRS. EDITORS, — I desire to call the attention of the readers of the JOURNAL to an advertisement in your columns of an elastic rubber water-bed. My personal experience of its use in a case of iliac abscess has convinced me that not only the comfort of the patient was secured, but the great ease and equable support given to the projecting bones had a favorable effect upon her strength. A further proof of the benefit which this kind of bed affords to a person obliged to lie for a long time in the same position is given by the fact that during a wakeful night the patient was not once moved for seven hours, though previous to its use she was turned over as frequently as once in every two or three hours. This bed has been in constant use by my patient for nearly four weeks. Yours truly, SUBURBAN.

MESSRS. EDITORS, — The undersigned respectfully requests those gentlemen (especially those outside of Boston) who have not responded to the circular recently issued asking for information respecting post-diphtheritic paralysis, to report the total number of cases of diphtheria treated by them (or the fact that none have occurred within their practice or to their knowledge), even if no paralytic complications have been observed.

The returns already received, which are hereby gratefully acknowledged, show, in the case of many towns, a complete exemption from the epidemic, and it will be interesting to note to what extent this has been the case. JAMES J. PUTNAM, M. D.

63 MARLBOROUGH ST., BOSTON.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the society will be held on Monday evening, April 17th, at eight o'clock, at the hall in Temple Place. Reader, Dr. J. R. Chadwick. Subject, Onanism in Women. Report of the committee on nominations.

BOOKS AND PAMPHLETS RECEIVED. — Review of "Hospital Plans." By John R. Miernsée, Architect of the Johns Hopkins Hospital. Baltimore. February, 1876.

A Treatise on the Diseases of the Nervous System. By William A. Hammond, M. D. Sixth Edition, Rewritten, Enlarged, and Improved. New York: D. Appleton & Co. 1876. (From A. Williams & Co.)